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Preliminary Report on Supersonic Jet Modeling

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The accompanying figures show the problem setup and radiation temperature (Tr) results for a simulation of a solid gold half-hohlraum irradiated with the 12 specified Omega laser beams using the incident pulse shape for shot 18080. The experimental package is not included in this modeling; the hohlraum has a solid gold wall at the experimental package position.

Figure-1 shows the initial zoning and focusing of the two sets of laser beams.

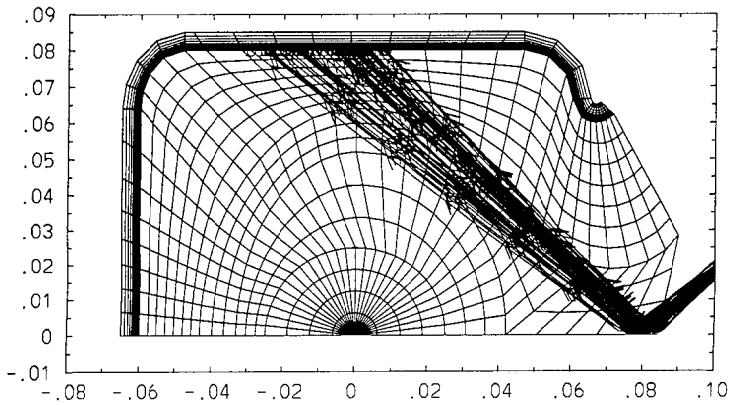
Figure 2 identifies the 4 regions over which we track the Tr as the simulation proceeds

Figures 3a-3d are plots of Tr in keV versus time in ns for the regions specified in Figure 2.

Figure 4 is a plot of Tr in keV versus time in ns. This Tr is computed from the emitted radiation flux using the original size of the laser entrance hole.

hh0269 1 1.0000000E-06 dtv(27, 19)= 1.00000E-06

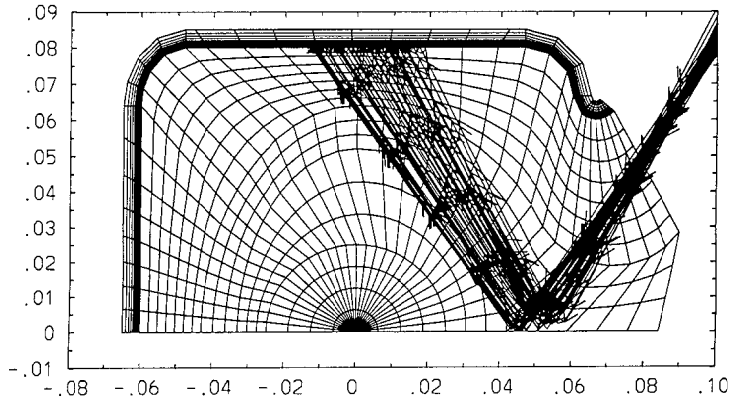
laser source 1: 2/12 beams



plotm
plotr 1

hh0269 1 1.0000000E-06 dtv(27, 19)= 1.00000E-06

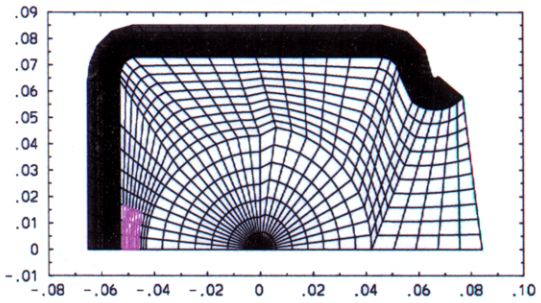
laser source 2: 10/12 beams



plotm
plotr 2

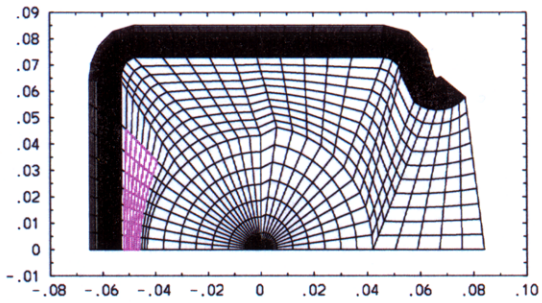
Figure 1

hh0269: region 1



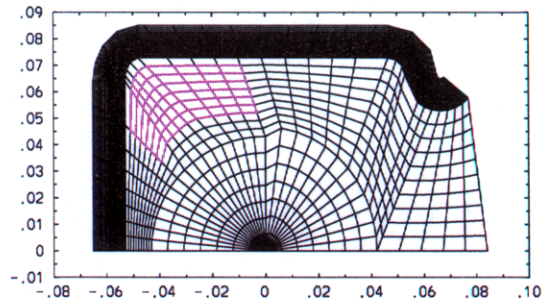

```
plotm
plotm krange=kfds1(1),kfds2(1) lrange=lfds1(1),lfds2(1) color=magenta thick=3
```

hh0269: region 2



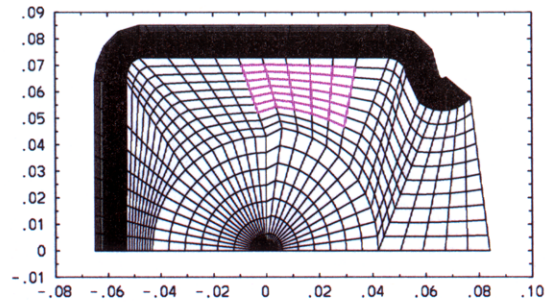

```
plotm
plotm krange=kfds1(2),kfds2(2) lrange=lfds1(2),lfds2(2) color=magenta thick=3
```

hh0269: region 3




```
plotm
plotm krange=kfds1(3),kfds2(3) lrange=lfds1(3),lfds2(3) color=magenta thick=3
```

hh0269: region 4




```
plotm
plotm krange=kfds1(4),kfds2(4) lrange=lfds1(4),lfds2(4) color=magenta thick=3
```

Figure 2

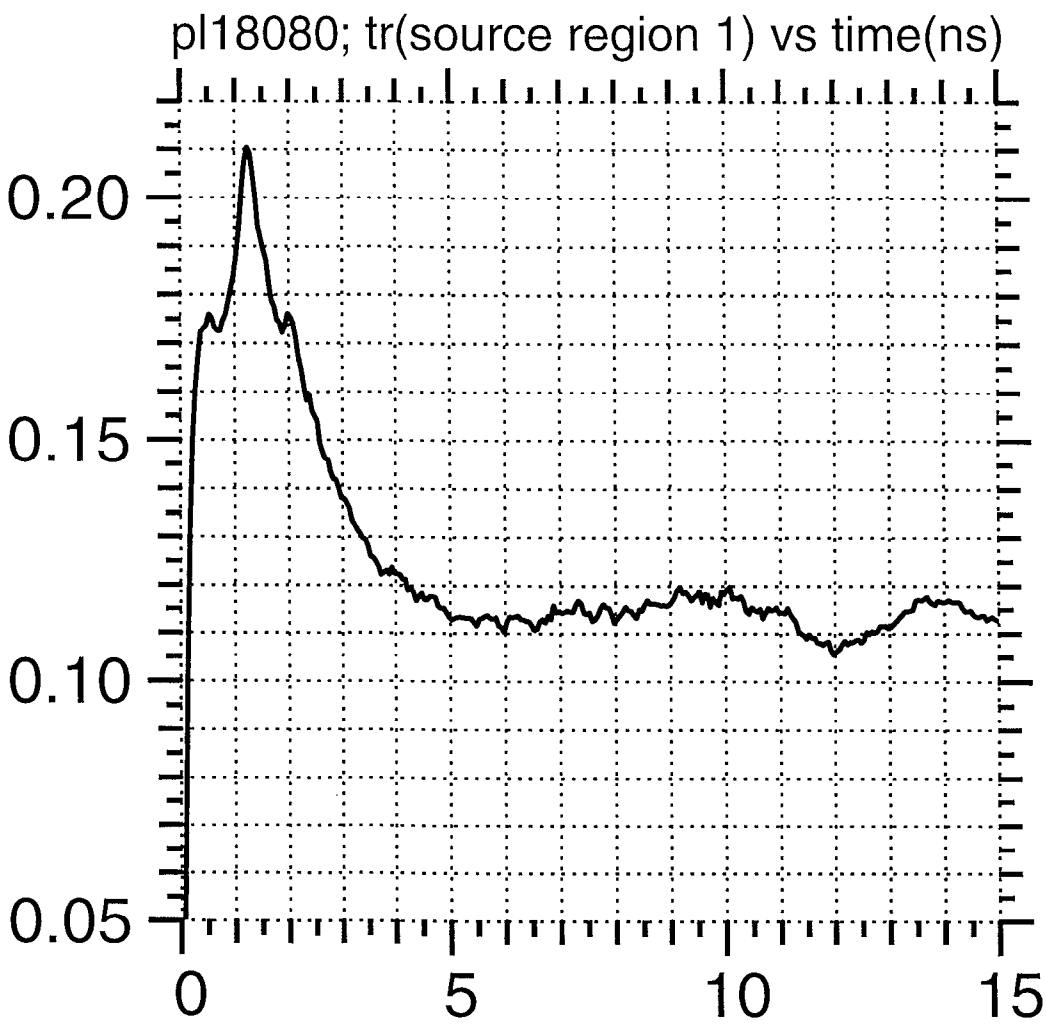
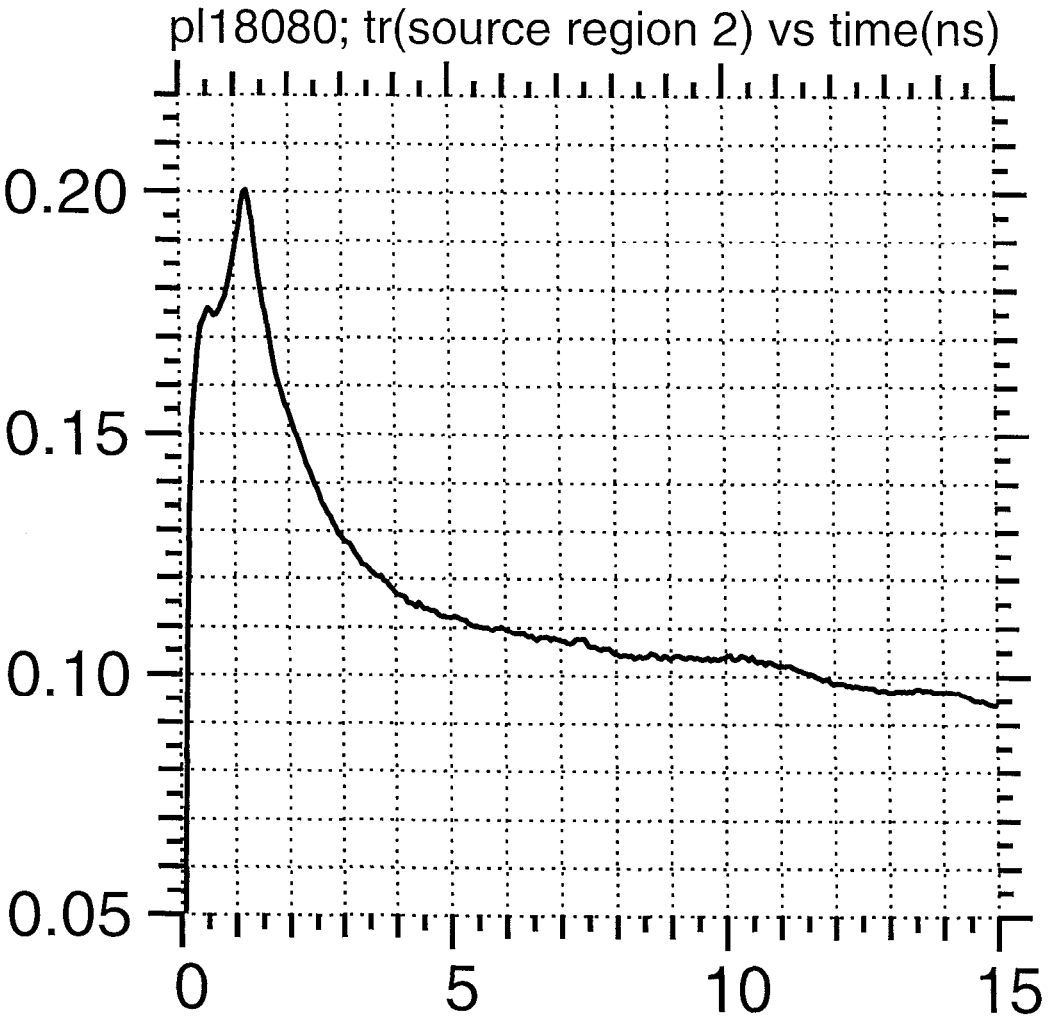
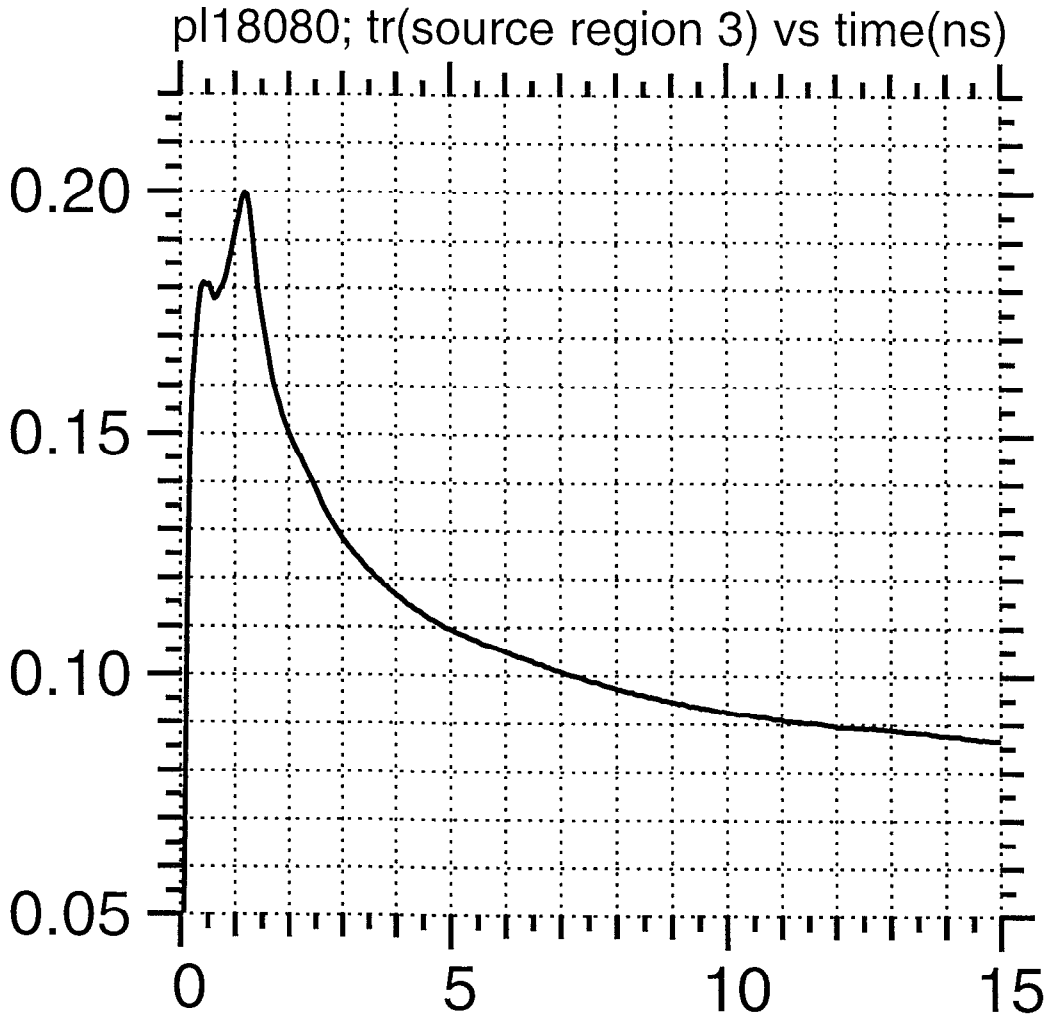


Figure 3a


pl18080; tr(source region 2) vs time(ns)
0.20
0.15
0.10
0.05
0
5
10
15


pl18080; tr(source region 3) vs time(ns)
0.20
0.15
0.10
0.05
0
5
10
15

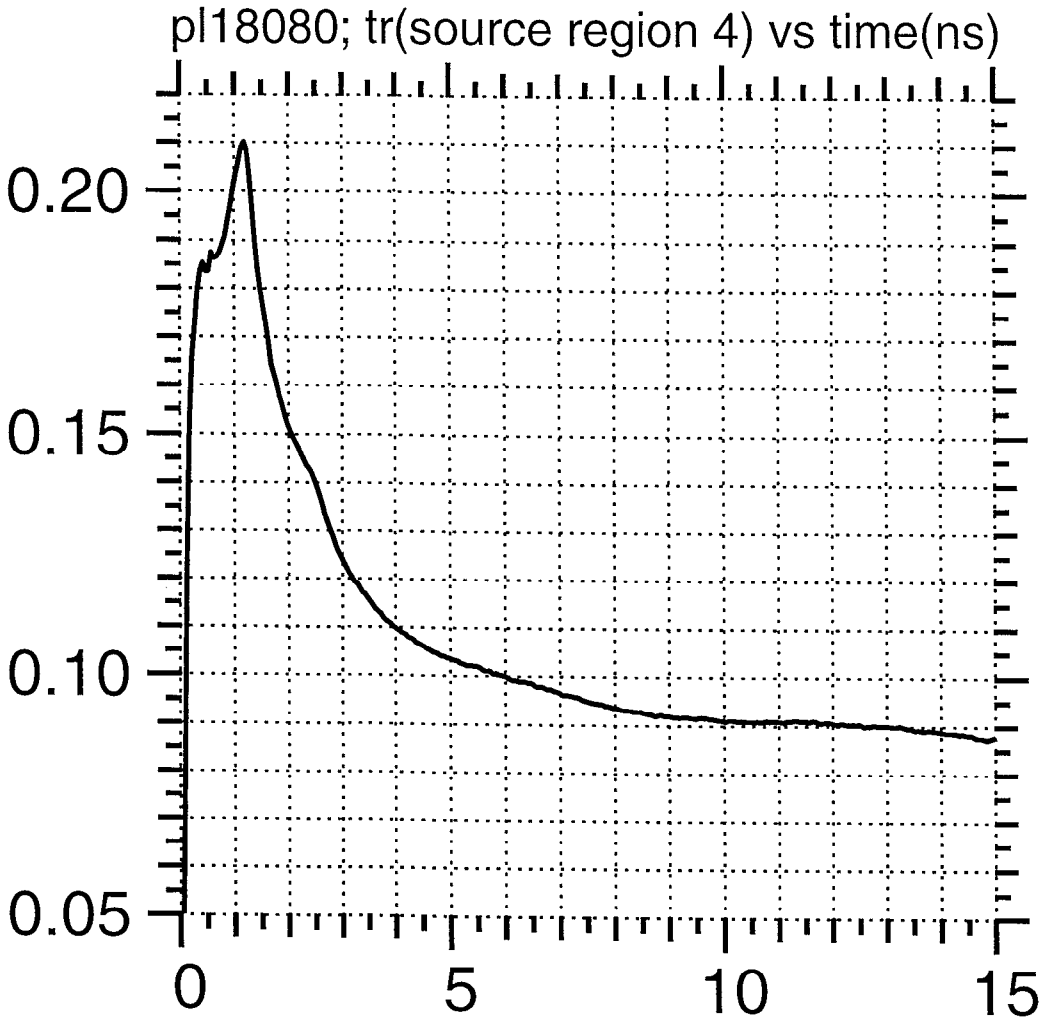


Figure 3d

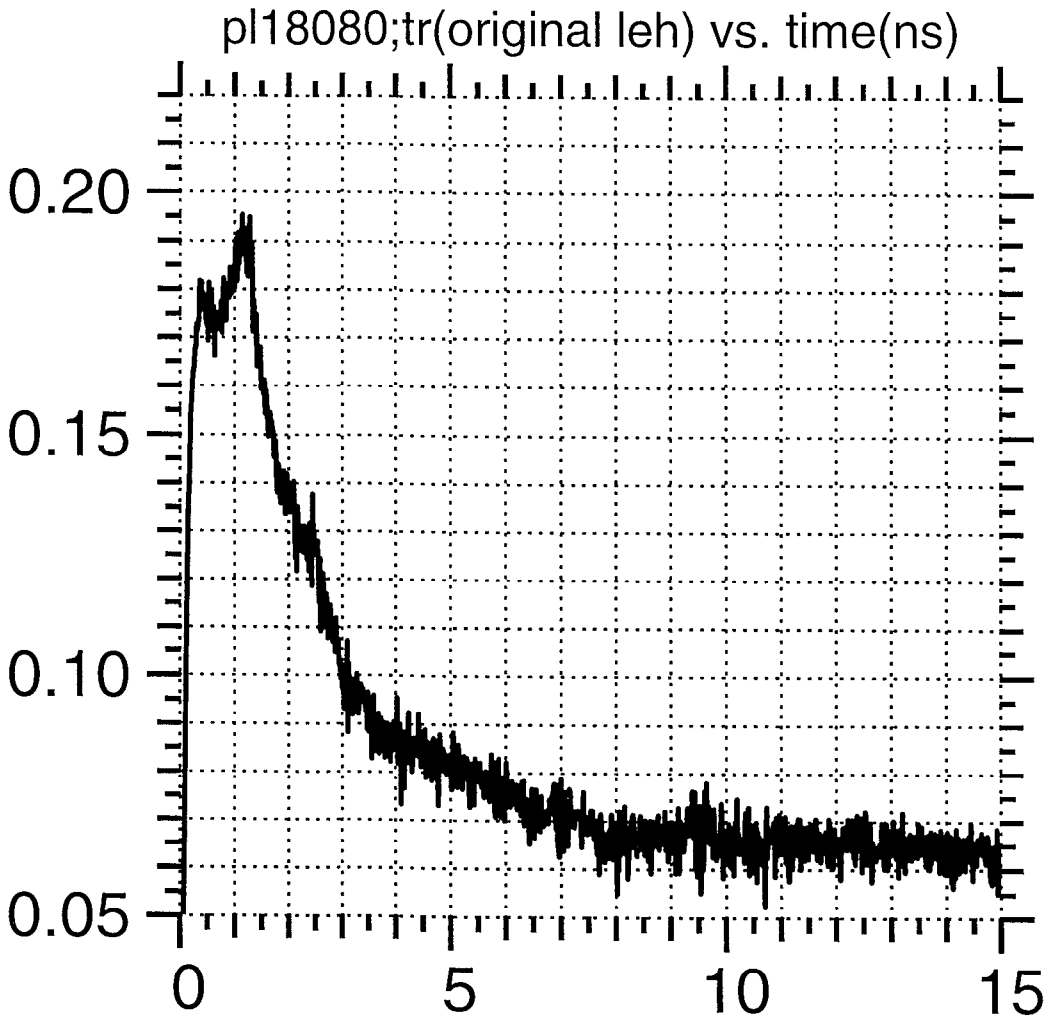


Figure 4